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## Attachment anxiety and avoidance, emotion dysregulation, interpersonal difficulties and alcohol problems in emerging adulthood

Abby L. Goldstein<sup>a</sup>, Sarah Haller<sup>a</sup>, Sean P. Mackinnon<sup>b</sup> and Sherry H. Stewart<sup>c</sup>

<sup>a</sup>Department of Applied Psychology & Human Development, OISE, University of Toronto, Toronto, Canada; <sup>b</sup>Department of Psychology and Neuroscience, Dalhousie University, Halifax, Canada; <sup>c</sup>Departments of Psychology and Neuroscience and Department of Psychiatry, Dalhousie University, Halifax, Canada

### ABSTRACT

**Background:** Current models of alcohol problems in emerging adulthood (EA) have not fully considered the developmental context and integrated developmental, social, and emotional mechanisms. Attachment styles contribute to the development of emotion regulation and interpersonal functioning, which are both critical for managing periods of transition. The current study tested a model of alcohol problems in EA that considers emotion dysregulation and interpersonal difficulties as mediators of the relationship between attachment anxiety and avoidance and alcohol problems.

**Method:** Emerging adults ( $n = 203$ , ages 18–24, 64.7% female) who drank 2+ times in the past 30 days completed measures at baseline and for 30 days after the baseline assessment.

**Results:** Path analysis was used to test the indirect relationships between attachment anxiety and avoidance and alcohol problems via emotion dysregulation and interpersonal difficulties. There was a positive indirect relationship between anxious attachment and alcohol problems via both emotion dysregulation and interpersonal difficulties, and between avoidant attachment and alcohol problems via interpersonal difficulties, but not via emotion dysregulation. Follow-up analyses examining pathways from attachment anxiety and avoidance to alcohol problems via the individual emotion dysregulation subscales revealed different emotion regulation pathways associated with higher anxious and avoidant attachment, but were generally in line with analyses using a summed total score for emotion dysregulation.

**Conclusions:** Interventions for alcohol problems in emerging adults should consider anxious and avoidant attachment as precursors to alcohol problems and should include skills training in adaptive strategies for emotion regulation and interpersonal functioning.

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### Insecure attachment, emotion dysregulation, interpersonal difficulties and alcohol problems in emerging adulthood

Emerging adulthood (EA), the stage of development that occurs between adolescence and adulthood (i.e. ages 18–25 years), is a period of significant psychological and cognitive transition. Arnett (2000, 2004) first characterized EA as a time of possibility, identity exploration, instability, self-focus, and feeling ‘in-between’; these features of EA have been supported in the empirical literature (e.g. Nelson and Barry 2005; Arnett and Tanner 2006; Reifman et al. 2007). Free from parents and the social rules that are more typical of adolescence, the transitions associated with EA also occur in the context of increased access to alcohol associated with reaching the legal drinking age (19 years in Ontario, Canada, the most populous province in Canada and the province in which the current study took place). Some researchers have suggested that this too reflects an important transition, allowing for greater freedom and opportunity to drink (Quinn and Fromme 2010). Thus, it is not surprising that emerging adults demonstrate the highest rates of alcohol use and alcohol problems (i.e. a pattern of alcohol use resulting

in negative consequences for the individual). According to the Canadian Addiction Survey (Adlaf et al. 2005), rates of past year drinking peak at 18–24 years of age; 18–24 year olds also have the highest rates of heavy episodic drinking (consuming 4/5 or more drinks per occasion for women and men, respectively) and are most likely to meet criteria for hazardous drinking. In a more recent survey of Canadians, 20–24 year olds demonstrated the highest rates of past year alcohol use and were more likely to exceed low risk drinking guidelines (10 drinks a week for women with no more than 2 drinks a day; 15 drinks a week for men, with no more than 3 drinks a day; Canadian Centre on Substance Abuse 2012, 2014) relative to other ages. In addition, emerging adults experience significant problems associated with their drinking, including adverse physical, mental, and social consequences (Dawson et al. 2015; Reich et al. 2015).

The purpose of the current study was to examine factors that contribute to alcohol problems in EA using a developmental lens. In particular, we proposed a developmental-social-emotional framework in which early relational experiences contribute to alcohol problems via their influence on two individual difference variables - emotion

dysregulation and interpersonal difficulties. We believe that difficulties in these two areas of functioning are particularly relevant for considering alcohol problems in EA and may act as mediators of the relationship between early relational experiences and alcohol problems.

### ***Attachment theory, emotion dysregulation, and interpersonal difficulties***

Attachment theory provides an important framework for understanding how difficulties with emotion regulation and interpersonal functioning influence alcohol problems in EA. Early theories of attachment were based on the work of John Bowlby (1969), who theorized that infants seek proximity to caregivers in order to satisfy their emotional needs and that early parent-child relationships contribute to the child's internalized models of self and other. When caregivers are available and responsive, the infant/child develops a positive internalized view of themselves and others, which guides their ability to navigate new situations, cope with distressing emotions, and form interpersonal connections. Conversely, when caregivers are unavailable or unresponsive, the infant/child develops a negative internalized view of themselves and/or others, which can adversely affect their abilities to manage distressing emotions and to make meaningful connections with others. Previous research has found that styles of attachment are relatively stable over time and active throughout the lifespan, serving as prototypes for relationship functioning and emotion regulation from infancy to adulthood (Bowlby 1988; Collins and Read 1994; Hazan and Shaver 1994).

Since Bowlby's early work, researchers have extended theories of infant and child insecure attachment and conceptualized attachment styles according to their positioning in a two-dimensional space consisting of attachment avoidance and attachment anxiety. Each dimension is said to have implications for maladaptive functioning in adulthood. Attachment anxiety involves a tendency to experience anxiety and distress in relationships due to fears of rejection and abandonment, whereas attachment avoidance involves a tendency to avoid or be distant in relationships due to discomfort with closeness (Bartholomew and Horowitz 1991; Brennan et al. 1998; Fraley and Waller 1998; Fraley and Shaver 2000; Sibley et al. 2005). Secure attachment reflects low attachment anxiety and avoidance. The relationship between anxious and avoidant attachment dimensions and comfort in relationships is also manifested in interpersonal functioning. Low anxious and avoidant attachment relationships provide the basis for positive representations of others and these representations contribute to greater competence in social relationships (Sroufe 2005). Previous research has found that greater anxious and avoidant attachment is associated with lower social competence and, in turn, increased psychological distress and lower perceived social support (Mallinckrodt and Wei 2005), whereas lower anxious and avoidant attachments in infancy are associated with better relationship functioning in adulthood (Roisman et al. 2005). In addition, higher attachment anxiety and avoidance are positively associated with interpersonal difficulties and poorer relationship quality in EA,

including greater relationship conflict in emerging adult dating partners (e.g. Campbell et al. 2005), greater conflict and lower companionship and security in emerging adult friendships (e.g. Saferstein et al. 2005), and lower quality romantic relationships in EA, although this relationship is stronger for attachment anxiety than attachment avoidance (e.g. Holland et al. 2012).

Greater anxious and avoidant attachment established early in life also contributes to emotion regulation processes throughout the lifespan, particularly in the context of responses to negative emotions or distress. Emotion regulation refers to one's general tendency to tolerate, differentiate, and modulate affective states in the service of accomplishing one's needs and goals (Cole et al. 1994; Thompson 1994; Gross 1998; Kennedy-Moore and Watson 1999). Competency regulating emotions in the face of threat or distress is influenced by the attachment relationship, including the ways parents respond to children's negative emotions and model effective self-regulation in the context of intense emotional experiences (Morris et al. 2007). According to Mikulincer and colleagues (Shaver and Mikulincer 2002; Mikulincer et al. 2003), attachment anxiety is positively associated with hyperactivating strategies that involve gaining proximity and clinging to others for support and reassurance. In contrast, attachment avoidance is positively associated with deactivating strategies when faced with distress, retreating from others and avoiding closeness. Empirical research suggests that different features of emotion perception and regulation are predicted by attachment anxiety and avoidance, respectively. For example, attachment anxiety is positively associated with hypervigilant emotional states and sensitivity to interpersonal emotion cues (Fraley et al. 2006). Attachment avoidance is positively associated with emotional suppression in response to negative emotions and utilization of social support (Gross and John 2003). Furthermore, research examining the psychobiological correlates of attachment anxiety and avoidance has found evidence for heightened reactivity in critical biological systems associated with (di)stress regulation: the hypothalamic-pituitary-adrenocortical (HPA) axis and the autonomic nervous system (Diamond and Fagundes 2010). In contrast to those high on anxious and avoidant attachment, those who are low on anxious and avoidant attachment are more able to manage distress, can rely on their own resources to modulate negative emotions, and seek out emotional support when needed.

The outcomes of relatively greater anxious and avoidant attachment – difficulties with emotion regulation and interpersonal functioning – have impacts throughout the lifespan, but may be particularly relevant during EA, a period of significant developmental transition. Attachment dimensions are particularly relevant for managing developmental transitions, including EA, which marks the transition from adolescence to adulthood (Kenny and Rice 1995). According to Sroufe et al. (1990) certain developmental issues can increase the salience of attachment representations. EA is marked by explorations in identity and self-focus and transitions in relationships, education, and career (Arnett 2000) and may represent a particularly stressful transition, thereby increasing the salience of attachment styles (Chopik et al. 2014).

In terms of the impacts of greater attachment anxiety and avoidance on developmental transitions, individuals lower in attachment anxiety and avoidance are thought to cope better with the transitional time of EA due to their more adaptive emotion regulation strategies (Cassidy, 1994) and better use of relationships as a source of support (Belsky and Cassidy 1994). Previous research has also found that lower anxious and avoidant attachment provides a critical foundation for the process of individuation that is expected during adolescence (Diamond and Fagundes 2008), although EA is now seen as the stage of life during which individuation and identity formation are salient (Arnett 2000, 2004), underscoring the need to understand how attachment styles influence functioning during this time of life.

It has been suggested that the increase in alcohol problems that accompanies EA is also due partly to the specific challenges of this stage of development, including the desire for experimentation and the use of alcohol to cope with the instability of this time (Arnett 2004). Given that people with high levels of attachment anxiety and/or avoidance have more difficulty adjusting to developmental transitions, one would anticipate that EAs with higher attachment anxiety and avoidance will experience greater problems with alcohol. Indeed, several researchers have examined the relationship between anxious and avoidant attachment and alcohol problems in EA and have found a direct positive relationship (Molnar et al. 2010; Labrie and Sessoms 2012; Reis et al. 2012; Andres et al. 2014).

Molnar et al. (2010) tested a dual-path model of high-risk drinking and alcohol-related consequences in a university student sample and found that anxious attachment in particular was positively associated with alcohol-related problems both directly and indirectly through drinking motives for social facilitation and negative affect alleviation. However, avoidant attachment was not directly associated with alcohol-related problems or any other alcohol outcomes (alcohol use, heavy drinking) and there were no indirect relationships between avoidant attachment and alcohol outcomes via drinking motives. The authors concluded that anxious attachment was an important risk factor for alcohol problems among university students, and that anxious attachment contributed to alcohol problems via both social facilitation and coping motives (i.e. coping with negative affect). Avoidant attachment was less important and, in fact, appeared protective against drinking for social facilitation reasons. The authors also noted that these findings were consistent with the results of other studies in the literature which found that, compared to avoidant attachment, anxious attachment was a more important factor in considering drinking in EA (McNally et al. 2003; Kassel et al. 2007).

Although these previous studies provide important information regarding the positive relationship between anxious and avoidant attachment and alcohol problems and anxious attachment in particular, earlier research examined indirect effects via individual facets of emotion dysregulation (i.e. coping motives, low self-esteem, dysfunctional attitudes) and did not include a multidimensional conceptualization, which considers multiple aspects of emotion regulation difficulties including deficits in emotional awareness and acceptance, as

well as impulse control and the use of adaptive emotion regulation strategies (Gratz and Roemer 2004). The multidimensional view of emotion dysregulation is more consistent with theoretical models that identify emotion dysregulation as an outcome of caregivers who are unavailable, unresponsive, or disapproving in response to their child's distress (Mikulincer and Shaver 2008).

In addition, few researchers have examined interpersonal functioning as a mediator of the anxious and avoidant attachment-alcohol problems relationship, despite significant theoretical evidence that interpersonal difficulties are critical for understanding how attachment influences alcohol problems in EA. Research with emerging adults has found that daily alcohol use increases following negative interpersonal interactions (DeHart et al. 2009), and that social competence and social support seeking (two adaptive interpersonal processes) are negatively associated with solitary drinking (an indicator of problem drinking) and that social withdrawal is positively associated with solitary drinking (Gonzalez and Skewes 2013). In addition, research on adult marital relationships has found that the relation between attachment anxiety (but not attachment avoidance) and alcohol use is mediated by relationship specific drinking-to-cope, supporting the notion that alcohol is used to cope with the interpersonal consequences of anxious attachment (Levitt and Leonard 2015).

### **The current study**

In summary, although previous research has identified the important influence of attachment styles on adjustment in EA, including the relationship between attachment anxiety and avoidance and alcohol problems, there is limited research on the mechanisms that underlie this relationship. The purpose of the current study was to test a comprehensive developmental-social-emotional model of alcohol problems in EA in which attachment anxiety and avoidance influenced alcohol problems via individual differences in emotion dysregulation and interpersonal difficulties. We hypothesized that emerging adults who were higher on anxious attachment would have more difficulty with interpersonal relationships and emotion regulation and, in turn, would report greater alcohol problems. Because findings to date regarding the relationship between high attachment avoidance and alcohol problems are somewhat inconsistent, we did not make any a priori hypotheses regarding effects for avoidant attachment, but explored mediating effects given the use of a multidimensional assessment of emotion dysregulation and inclusion of interpersonal difficulties. The overall goal of this research is to better understand developmentally-critical factors that influence drinking in EA so that these can be targeted in EA-focused interventions.

## **Method**

### **Participants**

Participants were 203 emerging adults (ages 18–24 years;  $M = 21.15$ ,  $SD = 1.91$ ) who completed a baseline assessment

and 30 days of surveys as part of a larger study on the relationship between emotion dysregulation, interpersonal difficulties, mood and interpersonal stressors on alcohol use and problems in EA. Participants were eligible for the study if they had consumed alcohol on at least two occasions in the last 30 days, were able to participate in 30 days of data collection following the baseline session, and were fluent in written English. Participants were predominantly female (64.7%), university or college students (68.0%), and single (46.4%) or in a committed relationship (39.2%). Half of the sample was Caucasian (50.0%) and approximately one-quarter were Asian (22.5%), with fewer participants identifying as East Indian (5.0%), African/Caribbean Canadian (2.3%), Latin (1.8%), and Middle Eastern (1.4%) and 17% identifying as multiracial.

### Baseline measures

#### Demographics

Demographic information included participant's gender, age, ethnicity, relationship status, education (current, past), and employment status.

#### Attachment

Attachment was assessed with the 36-item Experiences in Close Relationships-Revised (ECR-R; Fraley et al. 2000). The ECR-R was developed using item response theory and assesses anxious and avoidant attachment styles by asking participants to rate (1 = *strongly disagree*, 7 = *strongly agree*) items describing how they feel in emotionally intimate relationships: anxious (*I worry a lot about my relationships*) and avoidant (*I don't feel comfortable opening up to romantic partners*). Internal consistencies for both subscales in the current study were good: anxiety ( $\alpha = 0.91$ ) and avoidance ( $\alpha = 0.94$ ). The ECR-R has strong test-retest reliability and a consistent two-factor structure (Fraley et al. 2000).

#### Emotion dysregulation

Emotion dysregulation was assessed with total scores from the Difficulties in Emotion Regulation Scale (DERS; Gratz and Roemer 2004), a 36-item measure that considers emotion dysregulation as a multidimensional construct consisting of six factors: Nonacceptance of Emotional Responses (*When I'm upset, I become embarrassed for feeling that way*; current study  $\alpha = 0.90$ ), Difficulties Engaging in Goal Directed Behavior (*When I'm upset, I have difficulty focusing on other things*; current study  $\alpha = 0.91$ ), Impulse Control Difficulties (*When I'm upset, I become out of control*; current study  $\alpha = 0.90$ ), Lack of Emotional Awareness (*I pay attention to how I feel* – reverse scored; current study  $\alpha = 0.84$ ), Limited Access to Emotion Regulation Strategies (*When I'm upset, I believe wallowing in it is all I can do*; current study  $\alpha = 0.80$ ), and Lack of Emotional Clarity (*I have difficulty making sense out of my feelings*; current study  $\alpha = 0.84$ ). Participants rate each item on a 5-point scale ranging from 1 (*almost never: 0–10%*) to 5 (*almost always: 91–100%*). The DERS total scale, used in the present study, has

demonstrated high internal consistency ( $\alpha = 0.93$ ) and good test-retest reliability. In addition, DERS scores are positively correlated with measures of experiential avoidance and negatively correlated with emotional expressivity, which suggests strong construct validity (Gratz and Roemer 2004). Internal consistency for the full scale in the current sample was excellent ( $\alpha = 0.94$ ).

#### Interpersonal difficulties

Difficulties in interpersonal relationships was assessed with the 32-item version of the Inventory of Interpersonal Problems (IIP-32; Barkham et al. 1996), which is a modified version of the 127-item Inventory of Interpersonal Problems (IIP; Horowitz et al. 1988). The IIP-32 has eight factors reflecting problems in multiple areas (e.g. assertiveness, sociability, openness, supportiveness). The IIP-32 full scale score, used in the present study, has good internal consistency ( $\alpha = 0.86$ ) and good test-retest reliability (Barkham et al. 1996). In addition, previous researchers found that total IIP-32 scores were significantly correlated with measures of insecure attachment, emotion dysregulation and emotional distress (Wei et al. 2005). Internal consistency for the current sample was good ( $\alpha = 0.88$ ).

#### Daily diary alcohol use and problems

Daily alcohol use and problems were assessed over 30 days of daily diary data collection. Because most emerging adults drink during evening and nighttime hours, participants were asked to complete an online survey each night between the hours of 20:00 and 21:30 and to report on their drinking from the previous day. For each day, participants indicated whether they consumed alcohol the day before (yes/no), how many standard drinks they had consumed, and whether they experienced any problems associated with their drinking. To ensure that problems were linked to drinking from the day before, participants were asked to indicate whether they had experienced each problem “*because of their drinking yesterday*.” In total, 21 alcohol problems were drawn from the Young Adult Alcohol Consequences Questionnaire (YAACQ; Read et al. 2006). Based on Neal and Carey (2007) only those problems relevant to a single day were assessed, with participants indicating whether they experienced problems in the domains of: social (e.g. *said or did embarrassing things*), control (e.g. *drank even though planned not to drink*), self-perception (e.g. *felt bad about self after*), risk (e.g. *drove a car*), academic-occupational (e.g. *didn't go to work or missed class*), physical-dependence (e.g. *felt like needed a drink after getting up*), and blackout (e.g. *could not remember the night*). Internal consistency for the daily YAACQ in the current sample was good ( $\alpha = 0.83$ ). The advantage of using this method for measuring alcohol use and problems is that it provides prospective data (30 days after baseline) that is both ecologically valid and reliable, in that it considers multiple repeated assessments (e.g. Bolger et al. 2003).

## Procedures

Participants were recruited through online classified advertisements (Craigslist, Kijiji), social media (Twitter and Facebook), newspaper advertisements, and fliers posted around a university campus located in a major Canadian city. Interested participants contacted the lab, were screened for study eligibility and then invited to attend the baseline session within 1 week of the screening. Participants were asked to bring photo ID to verify their age. Participants signed a consent form and were given computer access to complete the online baseline survey. Following the baseline survey, they were provided with instructions for completing 30 days of surveys. Participants were paid \$25 for the initial assessment and \$20 incentives for each week of the daily diary study that they filled out at least five of the seven daily surveys (\$80 total). They also received a \$25 bonus payment at the end of the 30 days if they completed 80% of the daily entries.

## Data analysis

Preliminary analyses included tests of the bivariate associations between anxious and avoidant attachment styles, interpersonal problems and emotion dysregulation, and alcohol problems. We used path analysis in AMOS (Arbuckle 2014) to test whether emotion dysregulation and interpersonal difficulties mediated the relationship between insecure attachment styles and alcohol problems. Maximum likelihood estimation was used to fit the model. Because all participants in the sample were regular drinkers, to identify the specific effects of attachment on alcohol problems, we controlled for alcohol use (average drinks per drinking day). This is also consistent with previous research on the specific relationship between attachment styles and alcohol problems (McNally et al. 2003).

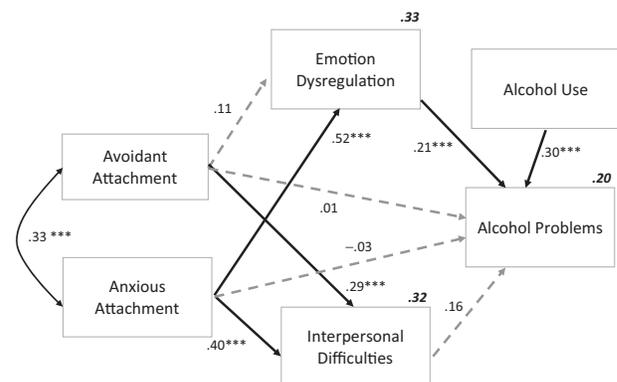
To test for mediation, bias-corrected bootstrap confidence intervals (95% confidence intervals,  $z = 2,000$  bootstrap samples) were estimated. We created user-defined estimands in AMOS to test the specific indirect effects of emotion dysregulation and interpersonal difficulties on the relationship between greater insecure attachments styles (anxious, avoidant) and alcohol problems. Specific indirect effects are estimated using bootstrapping and the 95% confidence interval is reported for all mediation effects; when the confidence interval does not include zero, this indicates a significant indirect effect.

## Results

The original baseline sample consisted of 218 emerging adults, but 15 of these participants (7%) did not provide sufficient data or did not drink during the daily diary portion of the study and were not used in the current analyses. The reduced sample ( $N = 203$ ) did not differ significantly from the baseline sample in age ( $M = 21.01$  years,  $SD = 1.89$ ) or gender distribution (65.3% female).

Descriptive statistics and bivariate correlations for baseline (attachment, interpersonal difficulties, emotion dysregulation) and daily diary (alcohol use, alcohol problems) variables are listed in Table 1. As indicated in Table 1, the average number of drinks per drinking day was significantly and positively associated with alcohol problems, but was not associated with attachment, interpersonal difficulties or emotion dysregulation. Alcohol problems were associated with anxious attachment, avoidant attachment, interpersonal difficulties and emotion dysregulation. In addition, both insecure attachment styles were positively and significantly associated with interpersonal difficulties and emotion dysregulation.

The path model is illustrated in Figure 1. Because the alcohol problems variable was positively skewed, we used bootstrapped standard errors for estimating the significance of each of the direct paths outlined in Figure 1. This provides a more robust estimate of these paths and is consistent with the use of bootstrapping for estimating the indirect paths. The model accounted for 33% of the variance in emotion dysregulation, 32% of the variance in interpersonal difficulties and 20% of the variance in alcohol problems.



**Figure 1.** Path model (with standardized path coefficients) of the relationship between attachment styles, emotion dysregulation, interpersonal difficulties and alcohol problems. Solid black lines are significant at  $p < .05$ . Dotted gray lines are non-significant.  $R^2$  values are presented in the upper right hand corner of endogenous variables. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

**Table 1.** Descriptive statistics and bivariate relationships for variables in the model.

Variable	Mean (SD)	Range	Correlation				
			1	2	3	4	5
1. Anxious attachment	2.94 (1.11)	1.00–6.61					
2. Avoidant attachment	3.12 (1.09)	1.00–6.28	.33***				
3. Emotion dysregulation	82.19 (22.95)	40.00–152.00	.56***	.29***			
4. Interpersonal difficulties	41.41 (17.78)	0.00–95.00	.50***	.42***	.61***		
5. Alcohol use <sup>a</sup>	4.02 (2.85)	1.00–18.00	-.07	.05	-.09	-.001	
6. Alcohol problems <sup>a</sup>	1.29 (1.61)	0.00–47.00	.15*	.15*	.27***	.28***	.29***

<sup>a</sup>Alcohol use is in standard drinks per drinking day. Alcohol use and problems are aggregated across the 30 daily diary days.

\* $p < .05$ .

\*\* $p < .01$ .

\*\*\* $p < .001$ .

**Table 2.** Standardized total, direct, and indirect effects of interpersonal difficulties and emotion dysregulation on the relationship between insecure attachment styles and alcohol problems.

Predictor	Mediator	Outcome	Total effect	Direct effect	Indirect effect	95% CI indirect effect
Anxious attachment	Interpersonal difficulties	Alcohol problems	0.147*	0.052	0.095*	[0.025, 0.203]
Anxious attachment	Emotion dysregulation	Alcohol problems	0.147*	−0.013	0.160*	[0.009, 0.316]
Avoidant attachment	Interpersonal difficulties	Alcohol problems	0.081	0.011	0.070*	[0.017–0.181]
Avoidant attachment	Emotion dysregulation	Alcohol problems	0.081	0.046	0.035	[−0.002, 0.129]

The total effect refers to the effect of the predictor on the outcome, before controlling for the mediators. The direct effect refers to the effect of the predictor on the outcome, after controlling for the mediators. The indirect effect represents (total effect – direct effect, which is also mathematically equivalent to  $a*b$ ), and is the primary test of mediation.

\* $p < .05$ .

As illustrated in Figure 1, the direct effects between attachment (avoidant and anxious) and alcohol problems were non-significant. The relationship between interpersonal difficulties and alcohol problems was also non-significant and the relationship between avoidant attachment and emotion dysregulation was non-significant. All other hypothesized relationships were significant: avoidant and anxious attachment were positively associated with emotion dysregulation, anxious attachment was positively associated with interpersonal difficulties, and both emotion dysregulation and alcohol use were positively associated with alcohol problems.

We estimated the indirect effects of emotion dysregulation and interpersonal difficulties on the relationship between both styles of attachment (anxious and avoidant) and alcohol problems, controlling for alcohol use (average drinks per drinking day). The combined indirect effects of emotion dysregulation and interpersonal difficulties was significant for the relationship between anxious attachment and alcohol problems ( $\beta = 0.175$ ,  $p = .009$ ; 95% CI = 0.13–0.41). The specific indirect effects for each path are listed in Table 2 along with direct and total effects for the model. Anxious attachment had a significant effect on alcohol problems through both emotion dysregulation and interpersonal problems. In addition, emotion dysregulation and interpersonal difficulties were positively associated with alcohol problems. The total effect for anxious attachment on alcohol problems was significant ( $\beta = 0.147$ ,  $p = .018$ , 95% CI = 0.012–0.277).

The combined indirect effect of emotion dysregulation and interpersonal difficulties was significant for the relationship between avoidant attachment and alcohol problems ( $\beta = 0.071$ ,  $p = .004$ ; 95% CI = 0.03–0.23), but avoidant attachment had a significant effect on alcohol problems through interpersonal difficulties only, and not through emotion dysregulation. The total effect of avoidant attachment on alcohol problems was also not significant ( $\beta = 0.081$ ,  $p = .161$ , 95% CI = −0.046–0.204).<sup>1</sup>

### Exploratory analysis

Theoretical models of the relationship between attachment styles and emotion dysregulation suggest different

mechanisms of emotion dysregulation for high attachment anxiety (hyperactivation) and high attachment avoidance (deactivation). Although this was not a primary hypothesis for the current study, to further assess the relationship between attachment styles, emotion dysregulation and alcohol problems, we tested individual mediating effects for each of the six DERS subscales. Because the DERS subscales are highly correlated, we ran separate mediation models for each DERS subscale. Anxious attachment had a significant indirect effect on alcohol problems through three of the DERS subscales: Limited Access to Emotional Regulation Strategies ( $\beta = 0.195$ ,  $p = .013$ , 95% CI = 0.063–0.321), Nonacceptance of Emotional Responses ( $\beta = 0.074$ ,  $p = .041$ , 95% CI = 0.009–0.183), and Impulse Control Difficulties ( $\beta = 0.160$ ,  $p = .007$ , 95% CI = 0.064–0.312). In addition, avoidant attachment had a significant indirect effect on alcohol problems through two of the DERS subscales: one positive indirect effect [Nonacceptance of Emotional Responses ( $\beta = 0.031$ ,  $p = .029$ , 95% CI = 0.002–0.118)], and one negative indirect effect [Difficulties Engaging in Goal-Directed Activities ( $\beta = -0.049$ ,  $p = .009$ , 95% CI = −0.117– −0.014)]. The negative indirect effect through Difficulties Engaging in Goal-Directed Activities reflects a negative relationship between attachment avoidance and difficulties with goal-directed activities which, in turn, is positively related to alcohol problems. All other indirect effects were non-significant and results are available upon request.

### Discussion

Taken together, our findings support a developmental-emotional-relational model of alcohol problems in EA, highlighting connections between relational patterns established early in life (attachment styles), difficulties with emotion regulation and interpersonal functioning, and alcohol problems EA. Although the relational impacts of anxious and avoidant attachment may be qualitatively different, the current findings suggest that both dimensions of insecure attachment are associated with greater alcohol problems via interpersonal difficulties. This is not surprising, given that interpersonal processes strongly influence alcohol use in EA (Borsari and Carey 2001) and these influences may have even greater impact for emerging adults who struggle to establish interpersonal connections with others – either due to fears of rejection or social disconnection. Our findings regarding attachment anxiety build on those of Molnar et al. (2010) and suggest that the social context of drinking that is typical of EA might contribute to alcohol problems by exacerbating

<sup>1</sup>As previous research indicates that men consume more alcohol and experience more alcohol problems than women, we also ran the model controlling for gender effects on alcohol use and alcohol problems. Although there was a significant effect of gender on alcohol use ( $\beta = 0.303$ ,  $p < .001$ ), there was no significant effect on alcohol problems ( $\beta = -0.111$ , ns) and the pattern of results for the model remained unchanged.

or intensifying difficulties in interpersonal functioning among those high on attachment anxiety. In contrast, the interpersonal difficulties experienced by those high in avoidant attachment (i.e. difficulties opening up to others, lack of involvement or support of others) may contribute to drinking through attempts to establish connections in social drinking contexts (i.e. alcohol use as a social lubricant) or may contribute to problematic drinking in solitary contexts. The social versus solitary drinking context distinction is an important one (e.g. Keough et al. 2016) and a precursor to alcohol problems in EA (Creswell et al. 2014). Although not the main focus of the current study, we did find that higher avoidant, but not anxious attachment, was associated with drinking alone (versus with others). Further research on the social contexts that contribute to alcohol problems in those high on avoidant and anxious attachment is needed.

It was also anticipated that anxious attachment would have an indirect effect on alcohol problems via impacts on emotion dysregulation. Our findings confirm this hypothesis: for emerging adults with greater attachment anxiety, both emotion dysregulation and interpersonal functioning are important to consider in understanding the attachment-alcohol problems connection. For attachment avoidance, the findings are more complex and somewhat inconsistent with previous researchers who found that avoidant attachment had little impact on emerging adult alcohol use and problems (Molnar et al. 2010). Instead, the present findings indicate that it is important to consider the ways in which specific emotion regulation strategies may contribute to alcohol problems, which may reflect use of different types of emotion regulation strategies for those with higher avoidant (i.e. suppression) compared to higher anxious attachment (i.e. hyperactivation; Mikulincer et al. 2003; Brenning and Braet 2013).

In the current study, follow-up analyses revealed that Nonacceptance of Emotional Responses mediated the relationship between attachment and alcohol problems for both higher attachment anxiety and avoidance. This may be due to the dual nature of this subscale, which captures emotion regulation strategies that reflect both activation (i.e. When I am upset, I become angry with myself for feeling that way) and suppression (i.e. When I'm upset, I feel ashamed with myself for feeling that way). Higher anxious attachment was also associated with alcohol problems through greater use of strategies that reflect feeling stuck, overwhelmed, and lacking control over negative emotions, consistent with hyperactivation in response to distress. In contrast, attachment avoidance was indirectly associated with greater alcohol problems through *less* difficulty engaging in goal directed activities in response to distress. This negative indirect effect may have contributed to the non-significant indirect effect of the total emotion dysregulation score on the relationship between avoidant attachment and alcohol problems, with two mediation effects with opposite signs (negative and positive) canceling each other out. In terms of the nature of this negative relationship, it may be the case that those with greater attachment avoidance have less difficulty engaging in goal-directed activities when feeling distressed because this may be a form of distraction (i.e. focusing on other things in an

attempt to disconnect from distressing thoughts or feelings) that does not alleviate the negative affect entirely, resulting in increased drinking problems. Indeed, findings from psychobiological research indicate that avoidant and anxious attachment are positively associated with responses to stress; however, avoidant attachment is negatively associated with subjective distress (Diamond and Fagundes 2010), which suggests greater distancing or dissociation from negative emotional experiences among those higher in avoidant attachment.

Taken together, the current findings support a developmental-relational-emotional model of alcohol problems in EA, with unique mechanisms for those high on anxious attachment and those high on avoidant attachment. However, several limitations of our study should be noted. First, our sample consisted of a large proportion of Caucasian women attending university or college and represented a restricted age range (18–24 years). Although we examined the relationship between anxious and avoidant attachment and alcohol problems across 1 month of EA, examining trajectories of alcohol problems for longer periods (e.g. multiple years) throughout EA and into adulthood would provide important information regarding patterns of alcohol problems and the extent to which anxious and avoidant attachment styles and emotion dysregulation contribute to continued versus EA-limited patterns of alcohol problems. A second limitation of our study was the evaluation of emotion regulation as a general trait. As noted earlier in this section, there is evidence that suggests that emotion regulation develops in an emotion-specific manner and that adolescents and emerging adults use emotion-specific emotion regulation strategies (Zimmermann and Iwanski 2014). While we chose to evaluate emotion regulation from a trait perspective, measuring emotion regulation from a state-like approach might provide insight into emotion-specific emotion regulation strategies. In addition, future research should use prospective approaches focusing on the impact of attachment (assessed earlier in time) on the development of both interpersonal and emotion regulation skills even before the EA period and the extent to which this contributes to difficulties in EA.

### **Clinical implications**

Despite these limitations, there are some implications of our findings that warrant further discussion. Recent research suggests that social support seeking to facilitate emotion regulation (i.e. looking for comfort, asking for advice) increases in EA (Zimmermann and Iwanski 2014), highlighting EA as a critical time for supportive relationships, particularly among those with difficulties regulating their emotions. Emerging adults with anxious styles of attachment experience relationships as a source of anxiety and fear relationship loss and abandonment, whereas those with avoidant styles of attachment feel discomfort in relationships and are reluctant to rely on others for support. Those with anxious and avoidant attachments may struggle to effectively utilize relationships as a source of support during this period of transition. Preventing alcohol problems in EA requires a

developmentally-informed approach, including assessment and intervention that address anxious and avoidant attachment and take into account the need for different approaches to social support. In addition, interventions targeting alcohol problems might have the greatest impact when they are focused on treating difficulties with interpersonal functioning and emotion regulation.

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